U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION X
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

26 January 1976

REPLY TO ATTN OF: M/S 345

Mr. Dave Wolske
Westinghouse Electric
614 N. Tillamook Street
Portland, Oregon 97227

Dear Mr. Wolske:

This letter will confirm our plans to visit your facility on January 28, 1976 as discussed with you today.

The purpose of our visit is to obtain information regarding the use of transformer/capacitor oils containing polychlorinated biphenyls (PCB) by use of questionnairs developed by our headquarters EPA office and where appropriate by obtaining samples of liquid effluent discharges and soils in loading and storage areas.

We look forward to meeting with you on Wednesday. As presently planned, the time required for questionnaire completion, inspection of facilities and possible sample collection may involve most of the morning.

Should you have additional questions regarding our visit, don't hesitate to call me at (206) 442-1193.

Sincerely,

Daniel Tangarone

Daniel Tangarone
Sanitary Engineer

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Check List -- Capacitors

	Yes	No
Date of Inspection 1/28/76		
Company Identification		
Plant (name, address, telephone)		
Parent company or headquarters (name, address, telephone)		
Responsible Officials		
Plant (name, title)		
Parent company or headquarters (name, title)		
Inspection Team		
Federal (name, title, division, organization)		
State (name, title, division, organization)		
Municipal (name, title, division, organization)		
Other (name, title, division, organization)		
Disposition of Wastes		
Receiving waters (for direct discharge)		
Municipal treatment system (including receiving waters)		
Landfill (name, address) Non-haz wastes		
Incineration (name, address) Do not use		
Other (such as disposal)		
Filling or impregnating fluids used	X	
Receipt, Transfer, and Storage		
How received (tank cars, trucks, drums)		
Where received (how far from use area)		
How unloaded into storage tanks		
Are tank cars cleaned after unloading?		
How?		
What happens to flushings or contaminated cleaning solutions?		
Drip pans under hose or pipe connections to tank car or trucks?		
Transfer hose or pipes drained where?		
Unloading area paved and diked? Collection sump?		
How are sumps emptied and to where?		
Unloading area roofed?		
How are samples taken?		
Where is excess sample disposed of?		
What disposition is made of samples after testing?		
Storage tank area paved and diked? Collection sump?		

	Yes	No
Receipt, Transfer, and Storage -- cont.		
Are raw filling fluids stored open to the atmosphere or under inert gas or under specially dried atmosphere or vacuum?		
If vacuum, how is vacuum obtained? — no		
Where does vacuum system exhaust to?		
Is exhaust equipped with vapor condenser?		
If so, where does condensate go?		
Where is vacuum pump cooling water obtained?		
Where does vacuum pump cooling water go?		
Is vacuum pump equipped with drip pans?		
How is contaminated vacuum pump oil disposed of?		
If stored under special atmosphere:		
What is it (nitrogen, dry air, etc.)?		
What pressure maintained on tank?		
Where does tank vent to?		
Is vent equipped with vapor condensor?		
If so, where does condensate go?		
Are transfer pumps in the storage area provided with drip pans?	X	
In all cases where drip pans are used, what disposition is made of accumulated drips?		
General Observations		
Workers handling of fluids		
Housekeeping		
Other		
Filling or Impregnating Fluid Purification	X	
Are pumps and filters equipped with drip plans or diked, with sumps?	X	
If filter aid blending tank surrounded by paved, diked area?		
How is spent filter aid taken off the filter?	X	
How is spent filter aid packaged for disposal?		
Is spent filter ~~aid~~ handled by employees? How?		
What is disposition of spent filter aid?		
If regenerated on site, where does regeneration process exhaust to?		
Is exhaust equipped with vapor condensor? — no exhaust		
If so, where does condensate go?		

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	Yes	No
Purification -- cont.		
Is purified fluid sampled?		×
How are samples taken?		
What is done with excess sample?		
If fluid does not meet requirements, what happens?		
What disposition is made of samples after testing?		
How are miscellaneous floor spills of fluid cleaned up?		
What happens to the sweepings?		
What happens to rage, wiping cloths, etc.?		
What happens to workers' clothing, gloves, etc.?		
General Observations		
Workers handling of PCBs		
Housekeeping		
Other		
Capacitor Impregnation-Submersion or Flood Filling Process		
Is impregnation tank cleaned before each filling?		
What is done with any filling fluid removed from the tank in cleaning it?		
What is done with any rags used in the cleaning?		
What is done with workers' clothing worn in cleaning?		
Are PCB vapors given off in preheating the tank prior to loading with capacitors?		
Where is tank vented to during preheating?		
How is vacuum obtained?		
Where does vacuum system exhaust to?		
Is exhaust equipped with vapor condensor?		
If so, what happens to condensate?		
Is vacuum pump equipped with drip pans?		
What oil is used in vacuum pump and how much?		
What happens to contaminated oil:		
After capacitors have been flooded, where is impregnation tank drained to?		
Are drainings sampled? How?		
What happens to excess sample?		
What happens to sample after testing?		
What happens if drained fluid is defective:		
to the fluid?		
to the capacitors?		
What happens if drained fluid is good?		
Are pumps equipped with drip pans?		

Yes | No

Are tanks surrounded by paved, diked areas? With sumps?
What disposition is made of contents of sumps and drip pan?

After impregnation tank is drained, are capacitors allowed to drip in tank, or taken out?

If the capacitors are taken out for dripping, are drip pans provided?
What is done with the contents of the drip pans?

Is the area where newly filled capacitors allowed to drip adequately ventilated? How?
Where does ventilation system exhaust to?
Is the exhaust equipped with vapor condensor and, if so, what happens to the condensate?

How are capacitors transferred to the sealing area?
Are drip pans provided? during filling process
What disposition of contents?

How are spills or overflows of PCBs collected in the sealing area? Floor - sump - Have not had any written spills so far
After sealing, how are capacitors cleaned of residual fluid on the outside? If it were to happen - spray
If by solvent or vapor degreasing, how is solvent reclaimed?
How is filling fluid residue from the solvent recycle system collected?
How is it disposed of?
If by washing with water or detergent solution, how are contaminated washings disposed of?
Are capacitors rinsed after washing? no
If so, is rinse water reused?
How is contaminated rinse water disposed of?

What happens to solid waste contaminated with filling fluid? Especially, what happens to wiping rags and workers' clothing?
If solvent cleaned, how is filling fluid residue from the solvent system collected?
How is it disposed of?

General Observations
Use of protective clothing, gloves, etc.
Workers' handling of fluids
Housekeeping
Other

Note in particular whether walls and ceilings are coated with filling fluid in the vicinity of the impregnation tank and drip area.

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Yes | No

Observe workers who come in contact with filling fluid for chloroacne or pigment discoloration.

If oil-water separator is used to separate filling fluid from water, what is done with oil layer? With the water layer?

Large Capacitor Impregnation/Transformer filling -- Direct Filling process

Is area around filling operation paved and diked?
How are spills cleaned up?
What disposition is made of contaminated solid waste?

How is vacuum pulled on the capacitor or transformer?
If by vacuum pump; where does pump exhaust to?
Is exhaust equipped with vapor condenser?
Where does condensate go?
Where does pump cooling water go?
How is contaminated vacuum pump oil disposed of?

If by steam jet, how is steam condensed?
What disposition is made of condensate?

How is filling line drained?

Laboratory

No. of employees
Quality control
Types of test performed and amount of sample used
(a) dieletric constant and loss tangent
(b) electrical breakdown
(c) distillation range
(d) density (specific gravity)
(e) others

R&D

Types of equipment used, test performed and amount of samples used?

Samples to be taken:

Soil scrapings in tank car unloading area
Vacuum pump cooling water
Oil-water separators (water layer)
Spent detergent solutions
Contaminated rinse water, etc.
Plant effluent a) direct discharge
b) to municipality
Steam jet condensate

General

How are defective capacitors or transformers disposed of?
Is filling fluid recovered?
Is rejected unit storage area paved and diked?

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Addendum to the Checklist

1. Are piping diagrams available for process, sotrmwater, and sanitary sewer systems?

2. Is information contained in 308 letter response by the company giving amounts and types of PCBs purchased? If not, is it available?

3. Note condition and maintenance of diked areas.

4. Will the company allow photographs to be taken?

5. What is the volume of each PCB storage tank? How many times per day, week or month, on the average, is it filled and emptied?

6. Are floor drains plugged?

7. Does the plant have a Spill Prevention, Containment and Countermeasure Plan?

8. Sample any non-PCB filling fluids in use to check for PCB contamination.

9. Have effluents or loss survey samples been analyzed by the company or at their request by another party? Are the results available?

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Off-Site Disposal Checklist

Purpose: To track wastes from plant and/or temporary storage to ultimate destruction or deposition; compare actual disposition of wastes with generator's expectations

Transport Phase

Who is responsible for transport of wastes from plant and/or temporary storage? (including name of company, address, and responsible officials)

Is transporter licensed for (a) interstate (b) intrastate transport?

Is the transport agent also responsible for disposal?

Is not, what are normal arrangement for disposal of wastes by the transporter?

What, if any, State restrictions must be met?

What assurances, if any, does the generator have that the wastes reach the expected disposal facility? (In California, hazardous waste manifest should be available for examination). What precautions if any are taken in the selection of the transporter? Bonding? License? Knowledgeability?

Are the contaminated wastes isolated for the transporter? Does the transporter maintain this integrity (by isolation, separate pick-up, etc.)?

How does the transporter know, if at all, that wastes are contaminated with PCB? (e.g. by purchase requistion, label, color codes, or other identification showing quantity, concentrations of PCB's etc.)

Does the transporter take any placarding/labeling precautions regarding (especially) liquid wastes? What specific label/placard is placed on a shipment of PCB-contaminated wastes? On truck-load? On barrels/containers?

What resources (e.g. guides, references), if any, are available to the transporter or on the vehicle to aid emergency personnel in case of accident?

Treatment/Disposal Phase

What is the treatment (incineration) or disposal site for the wastes? (including name of company, address, and responsible officials). (Note: In advance of visit to site, it is advisable to consult available literature on such facilities - see list of references).

Is the facility permitted by State air, water or land agencies? If so, what are permit conditions?

How is the transporter's vehicle directed? What are controls to avoid mishandling/misdirecting the wastes?

Receipt, transfer, storage area information (especially at incineration facilities) - refer to related check list question from capacitor plant list.

For incineration facilities, what kind of incinerator is employed? Is waste treated prior to incineration? What are combustion temperatures, dwell times, excess air ratios when PCBs are burned? How are these levels assured?

In what form and how are wastes fed into the incinerator? What are feed rates, destruction efficiency? What is potential for escape of unburned PCB's to environment?

What are the pollution control devices on the incinerator? What is their efficiency? What happens to the pollution control residuals (e.g. scrubber water)?

What monitoring and/or instrumentation is available on the incinerator?

Is there provision for emergency shut-down of waste feed, etc. in the event of malfunctions, especially of the pollution control devices?

What is the disposition of the ash?

(Note: In the event that PCB-contaminated wastes are being incinerated during a visit, grab samples of scrubber water and ash as well as data on kind and amount of waste being burned would be useful. Samples of waste type to determine

its chemical and physical characteristics would also be interesting. It would also be useful to ascertain if stack sampling would be permitted by the owner at some future time).

For land disposal sites, how are wastes emplaced in the land? In what form are they? Are they segregated from other wastes? Are they "treated" in any way before burial? What kind of liner-either natural or articial - is used underneath the PCB disposal area? What is depth to groundwater? What types of soil characterize the area?

What provisions are made to avoid air and water emissions during handling?

What provisions exist to prevent surface water contamination during accidents, spills, flooding, etc.?

What records are kept of the types and amounts of PCB waste received? What records are kept regarding location of these wastes on the site plot?

Is groundwater monitoring conducted? How many wells are used? What parameters are tested and how often? By whom? Would water samples be available to EPA for analysis?

Is any air monitoring conducted?

What provisions are there for site security, warning notices, limitation of public access, etc.?

Are fire protection, worker safety gear, outside communication links, worker first aid and hygiene facilities available?

Is the local fire authority aware that PCB contaminated wastes are present? Are they prepared to deal with them?

To what extent do workers appear aware of special hazards of the PCB waste stream vs. others?

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